RTCP for inter-destination media synchronization

draft-brandenburg-avt-rtcp-for-idms-04
draft-brandenburg-avtcore-rtcp-for-idms-00

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Recap: the problem solved by IDMS

To synchronize two or more geographically distributed RTP receivers
Current status of draft

• At IETF79 and on mailing list, two main issues were raised:
  – Use of RTCP XR for server->client messaging
  – Issues regarding the use of NTP

• New version (avt-04/avtcore-00) attempts to solve these issues
Issue – Use of RTCP-XR for server->client

• Draft presented at IETF 79 used the same RTCP XR block for client->server and server->client messages
  – Flag to identify nature of message

• Issue: Server->client message tells clients when they should play-out particular RTP packets
  – Basically control information
  – Therefore not suited for RTCP XR

• New version introduces new RTCP packet type for server->client message
  – Content of message remains the same
  – Client->server message uses existing XR block
Issue – Use of RTCP-XR for server->client - 2

Multimedia Source

Agent RTP
Agent RTCP

RTCP XR IDMS block

Receiver 1
Agent RTP
Agent RTCP

Receiver 2
Agent RTP
Agent RTCP

Receiver n
Agent RTP
Agent RTCP

RTCP IDMS Packet Type
Issue - Use of NTP

- Draft presented at IETF 79 assumed ‘NTP synchronization’ between clients

- Two main issues:
  - Time difference between different NTP servers
  - Is NTP itself accurate enough for all applications of IDMS?

- Solution - new SDP parameter to describe:
  - Type of time source used: NTP, GPS, Gallileo, PTP, etc.
  - In case of NTP: the used NTP server
Summary

• Changes in draft since IETF 79:
  – New RTCP packet type for server->messaging (incl. SDP parameter)
  – New SDP parameter for describing used time source
  – Added additional use cases apart from SocialTV
  – Added (informative) section with example/overview of IDMS operation
  – Added (informative) section on timing considerations (when to use which timing source)
  – Clarified some terminology
  – Numerous small improvements
Next step

• Are the presented solutions acceptable?

• Accept as WG document?
Extra slides: potential new topic on initial synchronization - 1

Allows all receivers to initiate the playout of the media stream at the same time
Extra slides: potential new topic on initial synchronization - 2

**Multimedia Source**

- Agent RTP
- Agent RTCP

**Receiver 1**

- Agent RTP
- Agent RTCP

**Receiver 2**

- Agent RTP
- Agent RTCP

**Receiver n**

- Agent RTP
- Agent RTCP

**RTCP XR DLRR Report Block**

**Maximum/Minimum Network Delay estimation**
Extra slides: potential new topic on initial synchronization - 3

This guarantees that all the receivers initiate the playout of the media stream at the same time **Initial Playout Instant**